established an aggressive time frame for implementing equal access. Huber finds that conversion to equal access was essentially complete in 1988, ten years after *Execunet II*.[28] Three years later AT&T was afforded limited streamlined regulation.[29]

Analogizing these events to local exchange competition, the equivalent of *Execunet II* might be considered the Commission's 1993 decision mandating interconnection with the LEC networks for switched access services.[30] If the same time frames recognized by Huber for long distance competition are also applicable to local exchange competition, it could be expected that equal access in local markets would be essentially complete in 2003, and it would then be appropriate for the Commission to consider streamlined regulation around 2006. Thus, applying the Huber-derived timetable from the history of the long distance market, it would be unlikely that the Commission would consider reduced regulatory oversight of the LECs until more than nine years from the present.

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[28] Peter Huber, "The Enduring Myth of the Local Bottleneck," March 14, 1994, at 51-2.

[29] As discussed in the Duvall/Williams monograph at 32-34, the history of the development of competition in the long distance markets displayed three phases typical in such situations: (1) contested industry reorganization; (2) market expansion and growth; and (3) market maturity.

[30] Comparing *Execunet II* to the Commission's switched interconnection decisions probably overstates the pro-competitive effect of the latter since the Commission has only allowed switched interconnection with dedicated facilities, and not yet ordered interconnection with the other local exchange functionalities that would make the analogy to *Execunet II* more complete.

Even this timeline is undoubtedly optimistic because it ignores important differences between the long distance and local interconnection proceedings. First, there is no consent decree mandating an aggressive schedule for implementation of interconnection.[31] Second, the LECs have already been accorded substantial pricing flexibility, in the form of volume and term discounts and zone density pricing plans, in advance of the advent of effective competition. As discussed in Part III, infra, such pricing flexibility in the presence of asset specificity will likely be used to impede competition.[32]

The precedent established in the interexchange market, along with the minuscule market share of the LECs' competitors, fully demonstrate that any grant of additional regulatory flexibility to the LECs under current market and competitive conditions would be totally unfounded.[33]

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[31] The Modification of Final Judgement which divested the RBOCs from the Bell System contained specific schedules for RBOCs' implementation of equal access for long distance providers. MFJ, App. B. The RBOCs' plans for implementing this requirement had to be submitted to the Department of Justice, and any deviations from the schedule had to be approved by Judge Greene, who had recourse to fines, as well as criminal and civil contempt of court remedies, in the event any RBOC failed to comply.

[32] These dates are also probably understated to the extent they ignore the more complex nature of local exchange interconnection, and the fact the LECs have filed expanded interconnection tariffs in both the special and switched access proceedings that have been determined to be unlawful. Furthermore, these tariffs differ appreciably among LECs, and by geographic location within LECs. *See* Part III, *infra*, where the concept of asset specificity predicts this kind of behavior by the LECs.

[33] The introduction of competition into the CPE market also confirms the long amount of time required for the development of full competition in telecommunications markets. Terminal equipment

B. The Mere Possibility of Competition Will Not Produce Economically-Efficient Behavior by the LECs in Local Exchange Markets.

The absence of any meaningful market shares for local exchange competitors of LECs, along with their continued control over many bottleneck facilities and services, means that the LECs have no concrete evidence with which to demonstrate that effective local exchange competition exists. Consequently, they have no choice except to rely on theories and speculations concerning the *contestability* of a service or market as the result of the elimination of barriers to entry. *See, e.g.*, Baumol, Panzar, and Willig, *Contestable Markets and the Theory of Industry Structure* (1982). This theory is completely inapplicable to the local exchange market.[34]

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competition started with the Hush-A-Phone decision in 1956 (*Hush-A-Phone Corp. v. FCC*, 238 F.2d 266, 269 (1956)), gained speed with the introduction of the Carterphone in 1968 (*In re Carterphone*, 13 FCC 2d 420, 437 (1968)), the National Academy of Sciences' inquiry into whether foreign equipment could safely be attached to the public switched network in the early 1970's (they concluded that it could be), the Commission's subsequent terminal equipment certification proceeding in 1975 (56 FCC 2d 593 (1975)), and culminating with the Commission's 1978 rejection of AT&T's attempt to require the use of a so-called protective coupling device (1978).

The total time from Hush-a-Phone to the Commission's final rejection of the protective coupling device tariffs was twenty-two years, and the lapsed time since Carterphone was ten years. Using either starting point, the CPE experience fully supports the legitimacy of the timeframe experienced in the long distance market. Hatfield at Figure 1.3.

[34] ALTS is not addressing the underlying merits of "contestable market theory" as an analytic approach since it is plain in this proceeding that the assumptions which are a necessary predicate to the "contestability" methodology are manifestly absent in local exchange markets.

Under the market contestability model, it is not the physical presence of another competitor that is needed to constrain the inefficient behavior of the incumbent firm. Instead, proponents of this theory maintain that the threat of competition alone is sufficient to discipline dominant firm conduct. Specifically, the theory presumes the absence of asset specificity, *i.e.*, specialization of an asset which severely restricts its value and usefulness if redeployed to some alternative use, or by the absence of legal mechanisms for reducing the risk of recovering sunk assets.[35] The theory also assumes that entrants have the ability to freely enter and exit the market, *e.g.*, there are no legal obstacles to entry and no sunk costs[36] that discourage or restrict entry. Under these circumstances, the hypothesis goes, the threat of entry will

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[35] Sunk costs are the expenses committed in order to compete in a market which can not be recovered in the near term even by exit from the market. The risk of recovering certain sunk assets can be reduced if certain property rights can be created and sold by the firm. For example, a pipeline is typically a sunk cost, but its owner can reduce the risk of non-recovery if it has the legal right, and market opportunity, to negotiate long-term take-or-pay contracts with customers. Without the right to enter into such contracts, the risk of non-recovery would become considerably greater.

[36] As noted above, *supra*, the existence of sunk costs can constitute a barrier to entry. William J. Baumol et al., "Contestable Markets and the Theory of Industry Structure" at 290-91. Industries which characteristically lack such costs, such as the airline industry, where capital assets are fungible, mobile, and easily financed, are the markets where contestability theory has most frequently found application. *See, e.g., Empirical Implications and Tests of the Contestability Hypothesis*, Journal of Law and Economics, XXX(I) p. 55: "The question of whether the airline industry is perfectly contestable has emerged as the empirical focal point of the contestability debate."

cause the dominant firm to price services at economically-efficient levels as though the market were competitive.

Contestable market theory is premised on market conditions that plainly are absent in local exchange markets. The theory focuses on extreme conditions of free entry and absolutely vulnerable markets. However, in real markets in general, and in local exchange markets in particular, entry and exit are not costless and without friction. Only under a specific set of circumstances characterized by a featureless market structure -- with no inelasticity of demand, no brand loyalties, no lags in competitive responses, no sales forces, no financial advantages and no possibilities of strategic action -- might the dominant firm consider itself to be vulnerable to potential competitors waiting in the wings.[37] This set of circumstances is the antithesis of the conditions that exist in the local exchange market -- asset specificity, barriers to entry and exit, competitive advantages enjoyed by the dominant firm, and anticompetitive responses or preemptive action by that entity.

While contestability theory might provide insights in some markets,[38] it plainly lacks any application in the local telecommunications market where asset specificity is rampant.

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[37] Shepherd at 106.

[38] *See* Morrison and Winston, "Empirical Implications and Tests of the Contestability Hypothesis," Journal of Law and Economics, XXX (1987) 53, for a discussion of the possibility that contestable market theory may be applicable to the deregulated airline industry. Obviously, airline capital assets are mobile, fungible, and easily financed -- attributes lacking in almost every local exchange asset.

Indeed, it is difficult to imagine an asset more specific -- i.e., less valuable in alternative uses because of its specificity -- than an AT&T 1AESS switch deployed in local exchange service and equipped with proprietary software. More generally, the typical array of local exchange assets (twisted copper pairs of specific gauge equipped with loading coils, frames, cable vaults, operational support systems, etc.), is one long list of highly-specific assets which currently render the local exchange market incontestable from the perspective of contestability theory.[39]

Beyond the problem of asset-specificity, contestable market theory also requires that the dominant firm be a passive target, unable or unwilling to repel market entrants. This characterization is completely at odds with reality in regulated industries. The entire history of the telecommunications industry, from Theodore Vail to John DeButts, as well as in the local exchange industry more recently, overflows with counter-examples. In telecommunications markets the dominant firm is all too likely to respond aggressively and effectively to the threat

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[39] For an example of how network elements can be defined without undue specificity, *see, e.g., Telecommunications Building Blocks*, Cost Report Volume I, Oregon PUC Docket UM 351 (July 1993) at 23: "Basic level. A transmission path that provides less than 1.544 Mbps digital capability. This includes 300 to 3,000 Hz analog voice service, which is the basic channel for most voice grade services such as basic residence and business main line service, PBX trunks, Centrex type access lines and voice grade dedicated service."

of competition in order to deter entry.[40] The dominance of the LEC permits it to recoup short term price reductions through increased market share, to enjoy longer-term access to capital markets, and to fund its conduct through higher prices in less competitive markets. This type of activity, or even the threat of it, can and does impede competition.[41]

It strains credulity to assume that entry barriers are non-existent and that strategic behavior by LECs will not occur. The factors assumed away by contestable market theory are among the most critical business issues confronted by the LECs. For example, contestability theory assumes the LECs would fail to respond to competition, but reality demonstrates that the RBOCs are acting quickly and decisively in order to deter entry by potential competitors. For example, the LECs are in the process of a massive deployment of fiber optic facilities that will drastically increase their excess capacity. Thus, they are in a position to meet increased demand by expanding output at a very low marginal cost, effectively barring competitors from entering. In addition to being able to deter competitors, LECs can also use their vast cash flows to buy potential competitors such as out-of-region cable companies, thereby preventing them from ever becoming an in-region threat. By engaging in such strategic behavior a LEC can raise the barriers to entry and eliminate the

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[40] *See* the discussion in Part III, *infra*, explaining why asset specificity will cause a dominant firm to respond vigorously to competition.

[41] Shepherd at 102-103.

threat, and constraining effects, of potential competition.

Legal burdens are equally potent entry barriers in local exchange markets. CAPs currently have to obtain legal permission to compete on a state-by-state basis, and have to negotiate facilities agreements with municipalities and many property owners on a piecemeal, slow-moving basis in far too many cases. There are absolutely no barriers comparable to these in the paradigmatic cases relied upon by contestable market theory -- airlines and trucking. Indeed, it is particularly instructive that contestable market theory typically chooses to deal with these industries as they existed *after* their deregulation by the CAB and the ICC.[42]

Contestable market theory thus plainly lacks any meaningful application to competition in local exchange market. As shown above, the transition to competition in the local services market requires a sharp drop in the LECs' market share, not the mere possibility that potential competition will become actual competition.

C. There is No Evidence That Potential Competitors Identified By the LECs Will Diminish LEC Market Dominance.

In support of their claim that multiple competitors will soon challenge their local service monopoly, the LECs frequently

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[42] *See* Morrison and Winston, *supra* note 36, at 58-59. The scarcity of landing rights at certain airports does not make the airline industry anymore similar to the local exchange market, because an efficient market exists for the purchase and sale of landing rights among airlines. No such market yet exists for local exchange interconnection arrangements. *Id.* at 62, n. 32.

point to the threat allegedly posed by cellular telephony, personal communications services, and cable services providing telephony. The LECs' reliance on these alternative access services and technologies is entirely unfounded. In view of the current capabilities of these industries to provide LEC-type services, they cannot produce a competitive market within this decade. In fact, the services provided by mobile systems and cable systems are likely to remain diverse and generally not substitutable for traditional local exchange networks.

The eagerly anticipated advent of PCS services is proof positive that cellular and wireline local exchange services are not currently meaningful substitutes for one another. Cellular phones are capable of providing most of the functions and convenience available from wireline CPE. If cellular were truly fungible with wireline in the consumers' eyes, as the LECs claim, there would be no reason for new entrants to be pursuing PCS technology with such vigor. The fact that substantial resources are being devoted to PCS proves that cellular differs significantly from wireline in terms of price, capacity, and power, and that these differences are so great that an entire potential industry -- PCS -- can fill the gap between these two markets.[43] The fact that PCS will someday more closely parallel

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[43] Generally, wireless services have not proven substitutable for wired local service in terms of cost, quality, capacity or reliability and are unlikely to be in the near term. The current price level for wireless services is approximately 20 times higher than the price of wired service, requiring a significant, and unprecedented, price reduction before prices are comparable. (Hatfield/ETI, "Why The RBHCs and Huber Are Wrong," Rebuttal to

the characteristics of cordless wireline service than cellular currently suggests that PCS might be more likely to function as a substitute for wireline, but the emergence of broadband PCS is still years away, and it would still have huge capacity limitations compared to wireline.

Cable television system architecture is quite different from either wireline or wireless networks. It is optimized for point-to-multipoint distribution of video services. Although some cable companies are upgrading their networks to provide a variety of services on a point-to-point basis, no cable system currently offers local telephone service in the United States. It will require massive capital investment and considerable time before this result is achieved. Even when service is possible, there is some question whether an integrated cable system providing video and voice services will create sufficient economies of scope by combining broadband and narrowband residential services. Certainly the number of merger explorations between cable companies and LECs (*e.g.*, Southwestern Bell and Cox, TCI and Bell Atlantic, etc.) suggest that few cable companies have the technical and financial resources to pursue unilateral entry into

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Huber, "The Enduring Myth of the Local Bottleneck") The capacity requirements necessary to serve fixed locations with wireless technology, as well as meet burgeoning demand for mobile service, would quickly strain cellular capacity. The advent of high datarate services would also place heavy demands on wireless networks, consuming vast quantities of spectrum and limiting their ability to serve "core" mobile voice customers. Wireless services may remain niche mobile services, leaving high data rate, broadband, and fixed services to the wired service providers. As a result, landline and radio-based networks may serve entirely different market segments. (Duvall/Williams Monograph at 39-41)

local exchange competition. It may simply be uneconomic to provide such service.[44]

Ultimately, the entry and success of competitors to the local exchange carrier will be driven by the economics of the local telephone business. The key issue is whether potential revenues available to new entrants will support the investment and operational costs needed to build and operate a venture that can be competitive with the firmly entrenched LEC. (Hatfield/ETI at 135). A study of different business cases by Hatfield and ETI concluded that cable and wireless competitors to LECs will require five to eight years to generate positive cash flow and that the profitability of the new entrant is subject to a high amount of risk. (Hatfield at 151.) In view of the difficulty of cracking the local telephony market, the test is not the potential for competition, as the LECs urge, but the likelihood of effective and sustainable competition. Thus, for the foreseeable future, it is unlikely that cable television and mobile radio will furnish sufficient competition to justify decreased regulatory oversight of the LECs.

D. The Emergence of Competition in Local Exchange Markets Is Being Slowed Substantially through the LECs' Pricing Decisions and Their Control Over Bottleneck Facilities.

The progress of competition in local exchange markets has

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[44] Duvall/Williams Monograph at 38-39, citing Leland L. Johnson and David P. Reed, "Telephone Company Entry Into Cable Television," *Telecommunications Policy* (March 1992) at 122-34.

been hindered by the LECs' quick and determined use of strategies designed to thwart competition. On the regulatory front, the LECs often argue that they are unable to respond to competitive inroads made by CAPS because they are subject to restrictive pricing policies regarding their regulated services. Thus, they claim, their ability to respond to unregulated competitors is impaired, to the detriment of consumers and LEC alike. In reality, the LECs have available numerous pricing strategies that provide them the ability to respond to and thwart competitive entry.[45]

For example, several states have deregulated certain LEC Centrex and high capacity private line services. Once the service is deregulated, the regulatory commission relinquishes all control over the prices the telephone company can charge for the services. Thus, LECs are able to charge whatever prices are necessary to undercut their competitors. Recently, LECs have proposed deregulation of rates for all services subject to an overall price cap regime and excluding residential services.

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[45] *See*, generally, Duvall/Williams Monograph at 25-27; Hatfield and ETI at 217-237 discussing LECs' strategy and tactics designed to repel competition including: highly restrictive interconnection policies; access discrimination (denial, delay, overpricing, and inferior access provided to competitors); restrictions on and prohibitions against resale; strategic prices targeted at services subject to actual or potential entry; strategic cost allocation designed to support anticompetitive pricing tactics; incentive regulation schemes that lock in high price levels by allowing rates to be benchmarked on earnings levels predicated on outdated and therefore overstated debt rates; insulate LEC monopoly services from the natural incentive to reflect technology driven efficiencies; and, political strategies designed to achieve reduced regulation and increased flexibility to pursue a wide range of strategic behavior. Hatfield at 218.

(Hatfield at 228). In a number of states, LECs are permitted to offer one or more services on a detariffed basis (often on a contractual basis, instead), which enables the LEC to have complete control over the prices for that service and eliminates any requirement to file tariffs. The LECs have also fought hard for, and won, the right to initiate flexible pricing or "alternative regulation" under which they may decrease or increase rates for selected services without prior review or approval from regulators.

The flexible pricing mechanisms available to the LECs give them the ability to respond to competitive threats rapidly and effectively by substantially lowering prices in targeted service markets, thus thwarting entry by competitors, while maintaining high rates in monopoly services. (Hatfield at 229). At the federal level even the current price cap environment enables the LECs to respond to competition by changes in basket allocations and definitions. Although the LECs may eventually be entitled to flexibility when confronted with effective competition, as discussed above, that trigger is in the distant future. Additional flexibility or streamlined regulation will only hinder, if not halt entirely, the development of credible competition, and will permit the LECs to protect their monopoly.

In addition to the LECs' growing power to deter local exchange competition through pricing, their continued control of bottleneck facilities permits the LECs to act strategically, create high barriers to entry, and render the local exchange

market noncompetitive. Antitrust market power analysis considers all local exchange carriers as dominant in their service areas regardless of the size of the service area because they control the local bottleneck.[46] Control over essential local exchange facilities creates concerns among regulators that a local exchange carrier will act strategically by discriminating when providing interconnections to other telecommunications networks, users or equipment, or by cross-subsidizing its competitive ventures by charging higher rates for its monopoly services. These concerns persist regardless of the size of the carrier's service area. Only the degree of potential harm varies with the size of the carrier, including the impact on competitors operating in regional or nationwide networks.[47] Regulation of carriers based on their control of essential facilities, (and regardless of market size or share), is well established and accepted by the courts, the Commission, and the Department of Justice.[48] This precedent must not be ignored.

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[46] *Illinois Bell Telephone Company. v. FCC*, 740 F.2d 465 (7th Cir. 1984) ("*Illinois Bell*").

[47] Warren G. Lavey, "Inconsistencies In Applications of Economics At The Federal Communications Commission," *Federal Communications Law Journal* 437, 475; *Illinois Bell* at 476.

[48] *See, e.g., Illinois Bell*, at 471, 473 (The worst bottlenecks in the telecommunications industry are at the local level); *Bell Operating Company Structural Separations*, 95 FCC 2d 1117, at 1138-39 (1983) (BOCs have effective control over the local bottleneck creating the ability and incentive to engage in anticompetitive activity); *Second Computer Inquiry Reconsideration*, 84 FCC 2d at 72-73 (Commission distinguished pre divestiture AT&T from other carriers based on its control of nationwide bottleneck facilities); *Merger Guidelines* - 1992 at 20,573-10 - 20,573-11 (The ability of competitors to enter may not be sufficient to

Although at some unidentified point in the future the LECs may cease to provide certain services or face competition for some services, and CAPs or other local service providers may build their own facilities, LECs are likely to continue to control the strategic nodes at which interconnection among the various networks takes place. (Hatfield at 55, Duvall/Williams Monograph at 2). These include, at a minimum, basic interconnection as addressed in the Commission's expanded interconnection proceedings, access to local number portability, network routing, control of data bases and signaling protocols, and Open Network Architecture basic service elements must be considered essential facilities.[49] At this time it is too early to tell with precision what facilities will remain bottlenecks over the next several decades. The process of identifying the LEC functionalities that are necessary to support competitive services has just recently begun and rights to these functionalities are yet to be established. Indeed, as demand for essential facilities increases, the strategic opportunities available to the LECs as the holders of essential bottleneck facilities will become even greater, not diminish, thus increasing the risk of LEC control of new networks and permitting them to dominate the growing number of adjacent markets that will

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relieve antitrust concerns where the constraints on availability of essential assets, due to incumbent control, make it impossible for entrants profitably to achieve the necessary sales.)

[49] These examples are illustrative only and by no means exhaustive.

rely upon these essential assets.[50]

The probability that at least some essential facilities will remain under the control of the LECs supports the conclusion that the Commission should create a framework -- such as the Staff-sponsored negotiations discussed *infra* in Part III -- which will identify the assets (and their attributes) needed by local service competitors and help fashion rules and efficient contractual remedies which will permit access to these facilities on reasonable terms and conditions. The reasonable availability to competitors of bottleneck facilities via efficient market transactions will help promote network development and clear the path to a competitive market. However, a clear mandate from the Commission that these facilities will be identified and made available to competitors on reasonable terms and conditions is a critical prerequisite to this process (since otherwise there would be little incentive for one side to bargain in good faith), and a necessary predicate to preempt the dilatory tactics constantly utilized by the LECs to slow the initiation of competition.[51]

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[50] Hatfield and ETI at 54-56. As noted *infra*, one task of regulators is to reduce the number of bottleneck facilities over time, thus reducing the opportunity for strategic activity.

[51] As Chairman Hundt made clear in his May 2d address to the National Press Club: "No one wants big companies to take unfair advantage of small companies through prohibited exclusive dealing, illegal discriminatory pricing, or other inappropriate trade tactics ... Competition for new entrants will be tough enough. Incumbents will have to play fair." *Telecommunications Reports*, May 9, 1974, p. 9.

III. THE COMMISSION'S MODEL FOR ANALYZING THE LOCAL EXCHANGE MARKET MUST BE EXPANDED TO INCLUDE TRANSACTION COST ECONOMICS.

A. The Traditional Regulatory Paradigm is Inadequate for the Local Exchange Market.

The standard model used by the Commission, and others, for assessing the extent of competition in a given market is commonly-termed the Structure/Conduct/Performance ("SCP") paradigm.[52] This approach examines each market from the standpoint of certain basic conditions that influence market structure and that in turn influence the behavior of its firms and the resulting performance of the market. Under the SCP paradigm the degree of competition is determined by the number of buyers and sellers active in the market, barriers to entry and exit, the extent of product differentiation and the conduct of the firms, among other factors. The NPRM uses the SCP method of analysis in, for instance, listing the criteria set forth in paragraph 95.

As the Duvall/Williams Monograph notes, the traditional approach generally has been a useful framework both for the regulator and for the participants. However, the SCP paradigm is far from complete. It does not take into account certain critical details that are essential to an adequate understanding of the complexity of transactions in the local telecommunications

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[52] *See, e.g.*, F.M. Scherer and David Ross, *Industrial Market Structure and Economic Performance*, Chpt. 1 (Boston, Houghton Mifflin, 3d. ed. 1990); *see also* Duvall/Williams Monograph, Appendix A.

market. In particular, the peculiarities and resulting implications of the actual transactions that occur in a given market are inadequately considered. It is at this level, the transaction level, that subtle decisions are made that affect the performance of the market and the degree of competition that might eventually develop.

The need to examine the individual transactions is particularly acute in the case of the local exchange market. The types of interfaces and connection arrangements that will be needed to ensure a level playing field for the LECs' local competitors are more varied and considerably more complex than those that characterized the terminal equipment ("CPE") and long distance ("IXC") markets. In those cases, the dividing lines and the types of interfaces necessary to bridge the gaps were relatively straightforward.[53] As a consequence, there were fewer variants among the types of transactions in the cases of the CPE and IXC markets and less reason to examine them closely. In both of those cases, the Commission had to take an active role and had to bring in outside resources to assist it in defining the

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[53] Duvall/Williams Monograph at 1-2. Despite the relative simplicity of determining the access arrangements needed in the CPE and interexchange arenas, in both cases the Commission relied heavily upon more than mere paper proceedings in establishing the types of access and their price. *See Proposals for New or Revised Classes of Interstates and Foreign Message Toll Service (MTS) and Wide Area Toll Service (WATS)*, Docket No. 19528, 56 FCC 2d 593 (1975), *Second Report and Order*, 58 FCC 2d 736 (1976), *aff'd. sub nom., North Carolina Utilities Commission v. FCC*, 552 F.2d 1036 (4th Cir., 1977), *cert. denied*, 434 U.S. 874 (1977).

interfaces and interconnection requirements;[54] yet, in both instances, it still took almost three decades for a fully competitive market to develop.[55]

There are three lessons in the history of the emergence of CPE and IXC competition that are relevant here. One is that, despite the best efforts of federal and state regulators, competition in those markets emerged gradually. The second lesson is that competition emerged only because of studious attention and a willingness on the part of the regulators to intervene actively. Third, and most important here, competition did not develop until the access and interconnection arrangements were fully defined, as a necessary predicate to their being made available at reasonable prices and upon reasonable and nondiscriminatory conditions.

Given the higher degree of complexity inherent in the access arrangements in the local exchange arena, it is that much more important in this market segment to examine the transactions by which access is furnished in a systematic and rigorous manner. This approach requires a workable understanding of the developing body of knowledge concerning *transaction cost economics*.

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[54] With regard to the abolishment of the traditional prohibitions against foreign attachments, *see, e.g.*, Brock at chpt. 9 and the First and Second Reports and Orders in Docket No. 19528, 56 FCC 2d 593 (1975) and 58 FCC 2d 737 (1976). In that case the Commission enlisted the assistance of the National Academy of Sciences. Brock at 247 and First Report at 601-02.

[55] Hatfield at figs. 1.3 and 1.4.

B. Market Transactions Should Be the Centerpiece of Analysis.

The emerging literature on the "New Institutional Economics"[56] considers transactions between parties as the basic unit of economic analysis. It examines what impediments may thwart market exchange between trading parties and consequently drive the seller or provider to favor the use of internal organization (often achieved through vertical integration) as a substitute for transactions in the open marketplace.

Removal of transactions from the marketplace undermines the public policies encouraging market competition and the public benefits provided by strong rivalry amongst a number of participants.[57] In the context of the local exchange market, vertical integration by the LECs of their access offerings through mergers of their local and toll operations[58] would make it more difficult, in many cases virtually impossible, for the CAPs or other potential competitors to obtain access to LEC

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[56] *Id.* at 7.

[57] There is no longer any serious debate over the benefits of a competitive marketplace nor over the desirability of regulators striving to lower entry barriers to the maximum extent. This was echoed most recently in the address by the Assistant Secretary of Commerce, who heads NTIA, to the Spring 1994 conference of ALTS. Secretary Larry Irving noted that the "Administration believes that the best way to spur investment in the NII [the National Information Infrastructure] is to promote competition in all telecommunications and information markets." Irving, "The Death of the National Information Infrastructure, or Don"t Believe Everything You Read," page 6 of the prepared text.

[58] In the context of the telephone industry, vertical integration has traditionally referred to the merging of local exchange and long distance services, as well as integration between transmission services and the manufacture of terminal equipment.

facilities and would eliminate the possibility of meaningful competition.

Understanding the attributes of each transaction in the local exchange market, therefore, is a necessary predicate to encouraging a competitive market. An examination of the different types of individual transactions that can occur in a market necessarily entail examination of the rights that each party is seeking at a reasonable price.

The critical first step is to define the rights that are involved. This definitional process is not only necessary for the regulator's understanding; but, more importantly, it is a precondition to a competitive marketplace. For instance, until each market participant achieves a thorough understanding of the complete set of attributes of each type of access offered by the LEC, access purchases cannot proceed, or will do so only on an imperfect and skewed basis.

C. Asset Specificity, Uncertainty and Frequency Are Important Factors.

The New Institutional Economics analyzes transactions of this type primarily through three prisms -- (1) the degree of asset specificity, (2) the degree of uncertainty inherent in each transaction and (3) the frequency of a given type of transaction. The most important of these three is asset specificity.[59]

Asset specificity is the extent of specialization inherent in an asset, that is, the extent to which the asset cannot be

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[59] Duvall/Williams Monograph at 14-16.

used for other applications. As a general matter, the higher the degree of asset specialization, the more difficult it is to use the market to complete the transaction. Under such circumstances, for example, a dominant firm, such as a LEC, is impelled either to vertically integrate or to insist upon the promise of detailed "safeguards" from its access customers in order to protect its "sunk" investments.[60]

Vertical integration (the merging of local and toll services) was a first choice of the Bell System and the independents from the beginning of the telephone industry. It remains their principal choice in most instances, wherever institutional and legal factors permit.[61] One recent example is the campaign of many of the Bell South operating companies to broaden substantially their "local exchange" territory to include areas that were formerly considered intrastate toll areas. This well-orchestrated campaign has been advanced in the guise of consumer benefits, including reductions in short-haul long distance rates, but has the intended effect of extending and

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[60] *Id.* at 15.

[61] The Bell System and GTE consent decrees interdicted much of the vertical integration aspirations of the larger LECs, although they reinforced the drive to vertically integrate where permitted, *i.e.* within the LATA. A oft-ignored but prime example of this was the hugely successful effort of the Bell Operating Companies in persuading Judge Greene and the Department of Justice to accept LATAs (Local Access and Transport Areas) that were far larger than any local exchange area, aggregating thousands of local exchanges into less than a few hundred LATAs.

perpetuating the LEC monopoly.[62]

Where vertical integration is not a feasible choice due to cost or regulatory barriers, the LEC is left with no choice but insist upon the maximum number of "safeguards"[63] it can mandate in its marketplace dealings. These safeguards can take many forms, ranging from long term contracts, with substantial termination penalties, to large nonrecurring "reconfiguration " or "installation" charges,[64] to the bundling of highly-desired access arrangements with those that are less desirable and more specialized.

Transaction cost economics suggests that a LEC's desire to maximize safeguards can result either from a purely economic need to minimize the risk of reduced return on (or total loss of) its investment in the asset; or from the separate or additional strategic goal of disadvantaging its rivals, who need access services, thus creating both short and long term advantages to

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[62] *See, e.g.*, the record in the intraLATA competition and compensation docket (90-UA-0280) in Mississippi. The LECs cast their campaign in the rhetoric of residential consumer benefits. Their purported purpose is to increase the area of toll-free, flat rate charges, often called Extended Area Service. The hidden agenda is to substantially extend the geographic reach of their local monopoly, often by as much as fifty percent.

[63] The term "safeguards" is used here in the same sense it is used in the Monograph (*see* Duvall/Williams Monograph at 15), to reference the attempt of the seller of a specific asset to obtain contractual provisions that ensure that the buyer will be required to pay sufficient funds to return the seller's investment plus profit.

[64] *Special Access Interim Prescription Order*, 8 FCC Rcd 4589 (1993).

the LEC.[65] Regardless of the motivation, the result is the same -- substantial increases in the cost of access and decreases in the availability of access, leading to increases in barriers to entry and substantial adverse impact upon competition. Regardless of the motivation, whether economic or strategic, the solution is the same -- early and vigilant involvement of the regulators.[66]

D. Transaction Cost Economics Explains the LECs Anti-Competitive Actions.

In analyzing the extent to which strategic behavior is likely, transaction cost economics considers two behavioral assumptions -- "bounded rationality" and "opportunism." Bounded rationality recognizes that persons and firms do act rationally but only to the extent of their information and understanding -- that is, that firms act within the limits of their "cognitive competence." Opportunism recognizes that firms act in their self-interest and, among other actions, will hide or distort the information they reveal to the other party to a transaction if they perceive that they can gain an advantage without violating

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[65] Duvall/Williams Monograph at 22-23.

[66] As we will show below in subsection G, the degree of regulatory involvement need not be extensive if it occurs early and with the proper set of assumptions and procedures. Indeed, early and vigilant regulatory involvement will substantially decrease the need for regulatory intervention at a later stage in the development of competition. As Duvall and Williams state: "Such regulatory rules and processes ['for resolving *ex post* transactional disputes'] are viewed in a very different way than is customary: such regulatory activity *reduces the transaction cost of using markets* in the face of contracting problems implied by deepening asset specificity." Monograph at 31 (Emphasis in original).

any duty of disclosure.[67]

These two behavioral attributes (bounded rationality and opportunism) incent a party to act strategically whenever there is uncertainty in its access transactions with its potential competitors. They limit the extent to which the purchasing party, which does not possess the detailed knowledge of the cost and features of the product or service, is able to eliminate uncertainty and avoid being overcharged.[68] Bounded rationality and opportunism enable the firm offering the product or service to act strategically. At the same time, bounded rationality and opportunism influence it to so act.

For instance, where, as is almost always the case, a LEC possesses more information concerning the cost and functions of an interconnection offering than the does the CAP, the LEC is able to price the offering above cost, and is motivated do so because the CAP's request demonstrates that the interconnection

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[67] Monograph at 17. Traditional economic analyses usually ignore the effects of bounded rationality and opportunism and assume that all parties to a transaction have the same information. By taking these realities into account, transactional analysis creates a more complete portrait of what actually occurs in the local exchange market.

[68] Monograph at 18-19. Bounded rationality and opportunism work conjunctively to enable strategic behavior by the LECs. Opportunism drives the LEC to price above the market to its competing CAP, while the principle of bounded rationality gives the LEC the security of knowing that the CAP will behave in predictable ways given the limits of its knowledge of the cost and utility of the access it is purchasing.